

EPA Incorporation of Five Tribes Technical Comments submitted January 26, 2018
Fish Tissue Field Sampling Plan(FSP)
dated January 18, 2018
Portland Harbor Superfund Site

Comment	How incorporated in EPA comments
Broad Recommendations	
<p>We suggest that EPA conduct the following checks of this FSP:</p> <ol style="list-style-type: none"> Section 5.7 (c) (2) on page 10 of Appendix A, Statement of Work, of the AOC says: <i>"The sampling will provide up-to-date information on the extent of contamination in affected media, identify existing conditions, and include a statistically valid data set that could be used to evaluate ROD remedial action objectives (RAOs). The FSP must include: ...</i> <i>(2) Description of data collection parameters, including existing and proposed monitoring devices and locations, analytical parameters to be assessed, analytical methods employed, supporting rationale for the sample components and their relationship to ROD RAOs, metrics, and targets (fish tissue);"</i> The FSP should be systematically checked against this list of required FSP components. 	<p>EPA has checked the FSPs against the list of required FSP components.</p>
<ol style="list-style-type: none"> The information included in this Pre-RD FSP should be checked against the information in FSPs from RI sampling to ensure that this FSP proposes consistent activities, as appropriate. For example, laboratory audits are described in the RI FSPs but not in this Pre-RD FSP. 	<p>EPA is checking the FSPs under review for consistency with previous RI sampling plans. Regarding the example provided in the comment, the quality assurance project plan (QAPP) under review does state that laboratory audits will be performed.</p>
Fish Tissue FSP Specific Comments	
<ol style="list-style-type: none"> The Fish Tissue FSP fails to include any mention of remedial action objectives (RAOs), including how the proposed sampling program will provide the information needed to evaluate compliance with RAOs and fish tissue targets. The Administrative Settlement Agreement and Order on Consent for Pre-Remedial Design Investigation and Baseline Sampling (AOC) requires that the FSPs developed under the AOC include this information (p. 10). 	<p>Although the fish tissue FSP does not refer to RAOs, Section 1.2 states that the focus of the sampling effort is to characterize current concentrations of ROD Table 17 contaminants of concern (COCs). The fish tissue targets in Table 17 were developed to meet RAOs.</p>
<ol style="list-style-type: none"> The Fish Tissue FSP states that "Laboratory methods, QA procedures, and QA/QC requirements for the sampling are generally equivalent to the LWG protocols for tissue chemistry described in Round 3B 	<p>EPA incorporated this comment as To Be Considered (TBC) comment 4.</p>

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<p>Field Sampling Plan for Fish and Invertebrate Tissue and Collocated Surface Sediment.” It is unclear if field personnel are expected to consult this Round 3B FSP for additional details. If not, the statement should be removed. If so, the relevant information from that FSP should be included in the Fish Tissue FSP.</p>	
<p>3. As described in some of our specific comments on the SOPs, below, the FSP appears to be asking the field team to document information that is not clearly related to the objectives of the study. We do not necessarily object to the collection of the information, but the FSP should describe why it is being collected and how it should be standardized.</p>	<p>See SOP comments below.</p>
<p>4. Accurate location data is a key component of a useful, high quality data set. The FSPs are inconsistent in their descriptions of how to collect location data, both within a plan (e.g., between the text and the associated data form) and between plans. Our recommendation is to use latitude and longitude in decimal degrees using the WGS 1984 setting on GPS units, so that data are consistent with broader analytical efforts. Regardless of whether that system or another is used, all spatial data should clearly report the projection, coordinate system, and units (e.g., international or U.S. Survey feet, meters, or decimal degrees).</p>	<p>As described in the Data Quality Management Plan, although location/positional data will be captured via global positioning system (GPS), the master repository of final, post-processed point data will be the EQuIS project database location table that will use North American Datum of 1983 (NAD83), National Spatial Reference System (NSRS) 2007 as the horizontal datum standard.</p>
<p>5. Section 1.2 states that “Fish tissue is one line of evidence for monitored natural recovery.” While true, the purpose in this case will be assessment of remediation. Can you reasonably conclude that even from 2012 to the 2018 sampling, all recovery that might be seen would be attributable to MNR, or have areas been remediated or subject to better source control measures? If the Pre-RD Group is trying to make a case for MNR based on fish tissue data, they must address these factors and how they can control for them relative to the assessment of MNR. For simplicity, we suggest that this statement be deleted.</p>	<p>EPA incorporated this comment into Primary comment 2.</p>
<p>6. Section 2.1. The sampling design is unclear as to the number of fish that may be collected from each individual sampling location. The paragraph in Section 2.1 states “collection of one specimen from each of 95 sampling locations within the Site” but</p>	<p>EPA incorporated this comment into Primary comment 3. Per the QAPP and the Pre-RD work plan, sample design targets 20 to 30 samples in each of the four segments.</p>

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the Final Pre-RD Investigation Work Plan in Section 3.2.3 states that the “sample design targets 20 to 30 samples in each of the four segments...” Is the overall goal to obtain 20-30 fish from each segment, or to obtain up to 95 fish from 95 individual stations? Consideration of the options and discussion of their alignment to overall objectives would be useful.	
7. Section 2.1. Section 3.2.3 of the PDI Work Plan states that “replicating the 2012 program sample size will allow detections of statistically significant ($p < 0.5$) concentration differences for PCBs in SMB[smallmouth bass].” Rather than stating “the number collected will be to the extent sufficient numbers of fish are present” (FSP, end of Section 2.1), a minimum number of fish required to provide statistically useful information needs to be discussed in this FSP, as well as the process for procuring them. If the number collected is below the minimum threshold, will analysis still proceed?	EPA prefers not to include a minimum number of fish in this FSP. Section 4.3.2 of the FSP states that if an insufficient number of SMB are caught by angling, an FSP addendum will be developed prior to proceeding with boat electrofishing or other alternate collection method. Discussion of minimum sample size required to provide statistically useful information can be discussed in the FSP addendum.
8. Section 2.4. This document should clarify whether the fish will be measured in millimeters or inches. The sampling equipment also does not specify the units, but the Specimen Tally and Location Form is in millimeters	EPA incorporated this comment into Primary comment 4.
9. Section 2.4. Clarify language regarding fish above and below the target range. “Specimens that do not meet the target size range will be released” is followed by a statement on when specimens outside the target size range may be kept. The FSP should clarify for field crews when these larger fish will be retained versus released.	EPA incorporated this comment into Primary comment 4.
10. Section 4.2. This section indicates that NAD83/State Plane Oregon North Zone will be used as the projection. The Specimen Tally and Location form indicates that Latitude and Longitude should be recorded in WGS84. Table 1 provides target coordinates in State Plane northing/easting in State Plane Oregon North Zone in international feet. These inconsistencies need to be reconciled, and should also be reconciled across FSPs, as noted in the general comments. We also strongly recommend recording data in decimal degrees to a specified number of decimal places.	As described in the Data Quality Management Plan, although location/positional data will be captured via global positioning system (GPS), the master repository of final, post-processed point data will be the EQuIS project database location table that will use North American Datum of 1983 (NAD83), National Spatial Reference System (NSRS) 2007 as the horizontal datum standard.
11. Section 4.3.3. The contingency plan should be modified to specifically address numbers of fish that	See EPA reply to Five Tribes comment 7 above.

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must be caught in a specific zone or overall to allow statistically sound comparisons as noted in Section 3.2.3 of the Work Plan. (See comment above on Section 2.1.)	
12. SOP-01, Scope and Applicability. The SOP's purpose is described as providing procedures for "decontaminating ... equipment contaminated by inorganic materials." Please confirm that it is also suitable for contamination from organic materials.	EPA incorporated this comment as TBC comment 5.
13. SOP-02, Camera Use. To ensure utility of the photos, we recommend additional guidance on when and how to take documentary photos. Are they required of each individual sample and location? How often should examples of field sampling techniques be photographed?	EPA incorporated this comment as TBC comment 6.
14. SOP-02, Photograph Documentation, Field Team Responsibilities. The list of digital photograph data to be collected is not consistent with the fields on the Photo Log form.	EPA incorporated this comment as Matter of Style comment 6.
15. SOP-02, Key Checks and Items. "Review photograph records periodically to ensure that the electronic photographs, dry erase board information, and the data log agree." This review should also ensure that the sampling information recorded there corresponds to the information on the Specimen Tally and Location Form (i.e., particularly to the actual Sample IDs recorded on the Specimen Tally). Also, what is the contingency plan if these data sources do not agree?	EPA incorporated this comment as TBC comment 6.
16. SOP-03. Equipment and Materials. All other SOPs specify a waterproof, permanent, or indelible marker. Presumably the same is required here versus "black-ink pen." Additionally, "Field forms" is on the list twice.	EPA incorporated this comment as Matter of Style comment 2.
17. SOP-03, Field Logbooks. This section indicates that the only mandatory information to record is deviations from the project-specific field sampling plan. Other information is listed as "may be included." We recommend consistent expectations on what is recorded in logbooks to facilitate later review.	EPA incorporated this comment as TBC comment 8.
18. SOP-03, Field Logbooks. Two contradictory statements are made regarding when entries should be made. The bulleted items include the caveat, "as soon afterward as possible (the data and time that	EPA agrees that the two statements differ, we did not include a comment because both statements indicate that

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<p>the notation is made should be documented, as well as the time of the observation itself)” while the text following it says “All logbook entries must be completed at the time any observations are made” (emphasis added). The bulleted point with the caveat is more reasonable and will encourage more accurate reporting.</p>	<p>information must be recorded in a timely manner.</p>
<p>19. SOP-03, Field Logbooks. The final bullet states that logbooks will be scanned “when field activity is complete.” It is unclear what “field activity” means – individual days or the project. We recommend scanning on a daily or minimum weekly basis, in the event that books are lost (e.g., fall overboard). Same comment applies regarding frequency of electronic scanning in later section on “Distribution of Copies”.</p>	<p>EPA incorporated this comment as TBC comment 9.</p>
<p>20. SOP-04. Equipment and Materials. The anesthetic referenced in the SOP is not included in the list.</p>	<p>EPA incorporated this comment as Matter of Style comment 3.</p>
<p>21. SOP-04. Fish Processing and Identification. The second paragraph ends with the statement “...and a general fish health examination will be conducted.” The relationship of this data collection to the objectives of the study should be clarified. Additionally, the minimum requirements of this examination, and what points should be documented (e.g., presence/absence of lesions? Gill condition?) need to be specified, and appropriate space included on the Specimen Tally and Location Form.</p>	<p>EPA incorporated this comment as TBC comment 9.</p>
<p>22. SOP-04. Fish Processing and Identification. “Each retained fish will be photographed along with the habitat conditions at each sampling location.” The purpose of these habitat conditions photographs should be identified, in relation to the objectives of the study, and “best practices” on how to photograph habitat should be included. If habitat conditions should be consistently recorded, an appropriate space needs to be included on the Photo Log.</p>	<p>EPA incorporated this comment as Matter of Style comment 6.</p>
<p>23. SOP-05. Station Location Procedures. This section states, “A position will be recorded electronically at each location where <i>plant tissues and soil</i> are collected.” Fish sampling is not discussed; please update.</p>	<p>EPA incorporated this comment as Matter of Style comment 4.</p>
<p>24. SOP-05. Station Location Procedures. Regarding logbook entries, the paragraph states they “may</p>	<p>EPA incorporated this comment as Matter of Style comment 4.</p>

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<p>include” a number of items but specifies no required entries. The minimum level of required information should be specified (and ideally nothing further). The procedures similarly note that “site coordinates <i>may also</i> be noted on field forms.” The coordinates are required on various forms and are not optional.</p>	
<p>25. SOP-06. Sample Labels. The format for the date and time need to be specified, for example, YYYY-MM-DD and “24 hr, Pacific Time.”</p>	<p>EPA incorporated this comment as Matter of Style comment 5.</p>
<p>26. SOP-07. To Prepare Fish Tissue Samples and Coolers for Shipping. Several references are made to dry ice and shipping, including a suggestion that the dry ice “always be overestimated.” Shipping regulations have maximum allowable limits and specific labeling requirements; these need to be referenced or included in this SOP.</p>	<p>EPA incorporated this comment as Primary Comment 11.</p>